

SPUT

Work Order ID 78018-1

\*78018\*

Page 1

Item ID: D2646

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Item Name: Aft Cap

Stop \*NS2\*

Start Date: 23/12/2011 Start Qty: 50.00

\*50\*

Cust Item ID:

Required Date: 01/02/2012 Req'd Qty: 50.00

\*50\*

Customer:

Reference:

Approvals:

Process Plan: M.L.J

Date: 11/12/20

Tooling:

Date:

Run Start \*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D2646

Rev C

100

0.00

\*100\*

PURCHASING

Purchasing

Memo

0.00

Purchasing

Issue P/O: 15753 1-Spin as per Dwg D2646 2-Material release note required

11-12-29

110

0.00

\*110\*

Receive & Inspect for Damage & Mat'l Certs

Packaging

Memo

0.00

Packaging

Ensure Material Release Note is attached

6/4/01/26

120

0.00

\*120\*

QC6- Inspect dimensions to drawing

QC

Memo

0.00

Quality Control

8/17/12/26

ccento  
(XO)  
2/20/19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

## December-28-11 1:28:36 PM

Page 2

### Hand Finishing

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Work Order ID 78018

\*78018\*

Page 3

December-28-11 1:28:36 PM

Item ID: D2646 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Aft Cap  
 Start Date: 23/12/2011 Start Qty: 50.00 \*50\* Cust Item ID:  
 Required Date: 01/02/2012 Req'd Qty: 50.00 \*50\* Customer:  
 Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start \*NR1\*  
 QC: Date: SPC (Y/N): Date: Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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160	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
*160*									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 3:30								
	FINISH TIME: 4:00								

W11A480 3200F 30x8m-12/02/06

170	QC3- Inspect Part Finish	0.00							
*170*									
QC	Memo	0.00							
Quality Control									

430 d 12/02/14

180	Small Fab	0.00							
*180*									
Small Fab	Memo	0.00							
Small Fab	Install inserts as per Dwg D2646								

430 d 12/02/14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 78018

December-28-11 1:28:36 PM

**\*78018\***

Page 4

Item ID: D2646 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Aft Cap  
 Start Date: 23/12/2011 Start Qty: 50.00 **\*50\*** Cust Item ID:  
 Required Date: 01/02/2012 Req'd Qty: 50.00 **\*50\*** Customer:  
 Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start **\*NR1\***  
 QC: Date: SPC (Y/N): Date: Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 <b>*190*</b> QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00				center +30			
200 <b>*200*</b> Packaging Packaging	Identify as per dwg & Stock Location: <u>FP-2</u>  Memo	0.00 0.00				30x counted			12/02/11
210 <b>*210*</b> QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00 0.00							M.C.J 12/02/11  M.C.J 12/02/14 30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

December-28-11 1:28:40 PM

Page 1

Work Order ID: 78018

\*78018\*

Parent Item: D2646

\*D2646\*

Parent Item Name: Aft Cap

Start Date: 23/12/2011

Required Date: 01/02/2012

Start Qty: 50.00

Required Qty: 50.00

## Comments:

IPP: G05.08.22Hole size revised in Step 5KJ/JLM

IPP Rev:H Changed Inserts 07-02-19 JLM

IPP rev I changed inserts 07.06.11 EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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ALS7-1032-130

Purchased

No

110

Each

731.0000

2

100 60 M

\*AI S7-1032-130\*

Insert

ALS4-1032-130

11119081

\*\*

(x60) 24/12/11

## Location

## Loc Qty

## Loc Code

ST280

328

117717

27

118966

22

119775

279

ST281

221

119794

221

ST282

182

119530

182

D2646P

Purchased

No

180

Each

0.0000

1

50

\*D2646P\*

Aft Cap

\*\*

01/01/26 (50)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

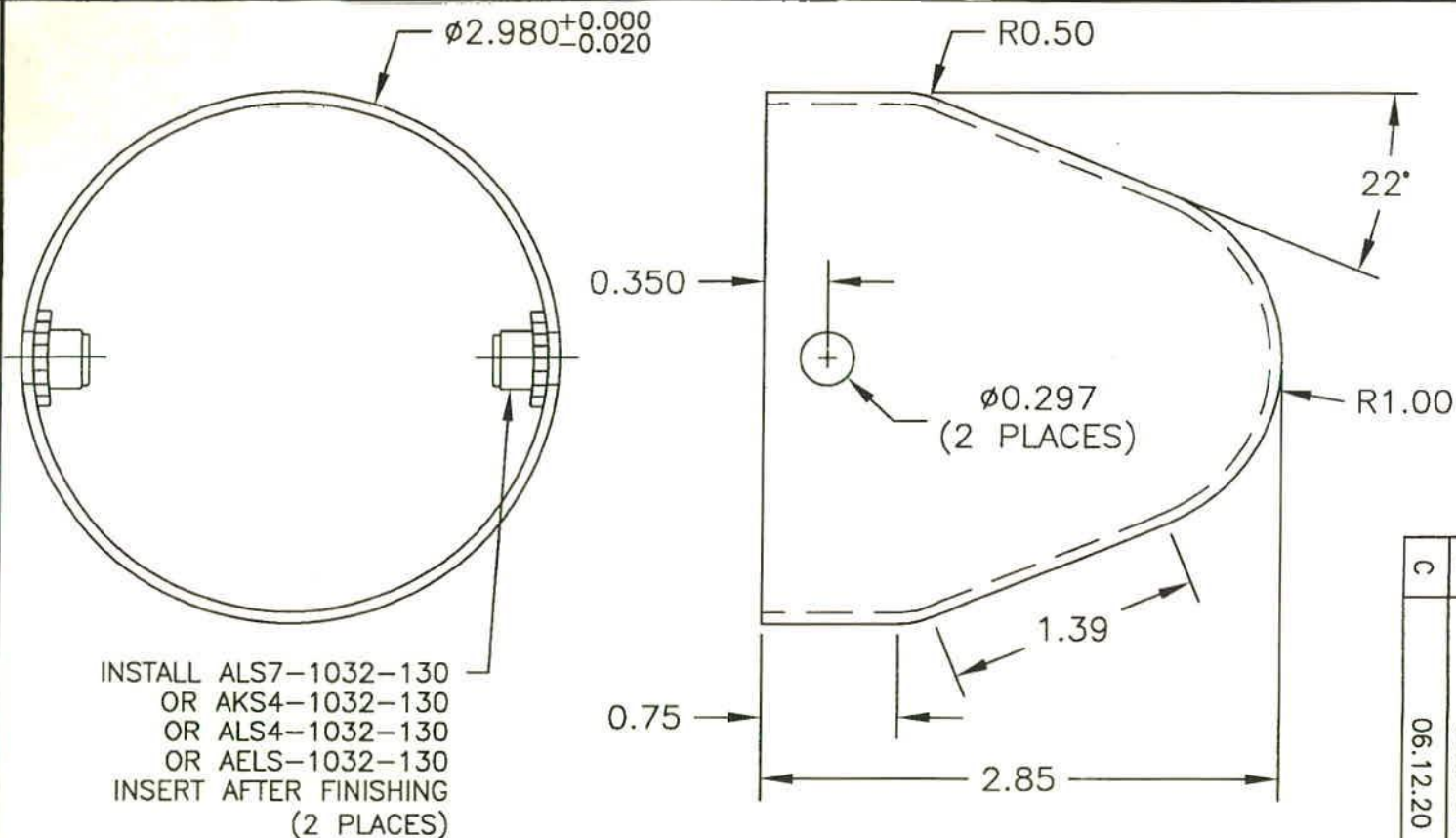
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DESIGN	DS	DRAWN BY	PH	DART AEROSPACE USA, INC.
CHECKED		APPROVED		PORT HADLOCK, WA
DATE	06.12.20			DRAWING NO. D2646
				TITLE AFT CAP
				REV. C
				SHEET 1 OF 1
				SCALE 1:1
	A	97.03.25		NEW ISSUE
	B	05.04.01		CHANGE TO CLOSED INSERTS
	C	06.12.20		CHANGE TO OPEN ENDED INSERTS



#### D2646 AFT CAP

- 1) MATERIAL: ALUMINUM 1100-0 0.063 THICK (QQ-A-250/1)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT ASSEMBLY WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 78018 M.L.J  
11/2/20

RELEASED  
07.02.12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID PO15753

Purchase Order Date 12/29/2011

PO Print Date 12/29/2011

Page Number 1 of 1

Order From :

VC-SIE001

SIEG'S MANUFACTURING LTD.  
6236 - 205 STREET  
LANGLEY, BC V2Y 1N7  
CA

Contact Name  
Vendor Phone  
Vendor Fax  
Vendor Account Nbr

604 530 7455  
604 530 7490

Buyer  
Requisition Nbr  
Tax Resale Nbr  
Terms  
Currency  
FOB

Brigitte Golden  
10127-2607  
Net 30  
CAD  
Destination-Collect

Ship To :

DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D2646P	Alt Cap	1/6/2012 Yes	50.00 Each	FedEx Overnigh	\$6,4700	\$323.50

Special Inst: As per DWG: D2646 Rev.C  
B78018

PO Total: \$323.50

Change Nbr: 1

Change Date: 12/29/2011

No substitution or deviation without  
consent.  
Certificate of Conformity or Material  
Certification required when applicable



# Sieg's Manufacturing Ltd. Packing Slip

Metal Spinning & Metal Fabricating

6236 205 Street

Langley, BC, Canada V2Y 1N7

Phone:(604)530 7455 Fax:(604)530-7490

Check out our website: [www.siegsfmfg.com](http://www.siegsfmfg.com)

Packing Slip No.:

40285

Date:

01/23/2012

Page:

1

<b>Sold to:</b>		<b>Ship to:</b>	
DART AEROSPACE LTD. 1270 ABERDEEN STREET HAWKESBURY, ONTARIO K6A 1K7		DART AEROSPACE LTD. 1270 ABERDEEN STREET HAWKESBURY, ONTARIO K6A 1K7	
<b>Order No.:</b>	15753	<b>Sold By:</b>	KAULBARS, ARLA
<b>Shipped By:</b>	Fed Ex	<b>Ship Date:</b>	01/23/2012
<b>Tracking No.:</b>			

Item No.	Unit	Description	Quantity
D2646P	Each	Aft Cap	50
Comment:			



# Sieg's Manufacturing Ltd.

Metal Spinning and Fabricating

6236 - 205 STREET, LANGLEY, B.C. V2Y 1N7

TELEPHONE: (604) 530-7455 • FAX: (604) 530-7490

## INSPECTION REPORT

Date: Feb Jan. 23/12

Customer: Dart Aerospace

Packing Slip: \_\_\_\_\_

Part#:	Quantity	Material	Check holes	Debur edges	Insp. By.
D2646P	50	6061 1100-C	N/A	✓	K

Notes:

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Material Certification Attached: ✓



# COPPER AND BRASS SALES

## MATERIAL TYPE ALUMINUM ALLOYS

### PRODUCT DESIGNATION

1100 1350 3003 3004 3105 5005 5083 5086 5182 5454 6061 6063

## "WARNING"

SMALL CHIPS, FINE TURNINGS AND DUST MAY IGNITE READILY. EXPLOSION POTENTIAL MAY BE PRESENT WHEN DUST OR FINES ARE DISPERSED IN THE AIR; FINE, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH CERTAIN METAL OXIDES; OR, CHIPS, FINES, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH WATER OR MOISTURE. KEEP AWAY FROM IGNITION SOURCE. USE EXPLOSION-PROOF VENTILATION. KEEP MATERIAL DRY.

INHALING LARGE AMOUNTS OF COPPER, MAGNESIUM OXIDE, MANGANESE OXIDE, AND ZINC OXIDE FUMES OR DUST MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS. CHRONIC OVEREXPOSURE TO COPPER MAY CAUSE THICKENING OF THE SKIN; AND SKIN, TEETH, AND HAIR DISCOLORATION. CHRONIC OVEREXPOSURE TO MANGANESE DUST CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE, SCARRING OF THE LUNGS AND REPRODUCTIVE HARM IN MALES. TARGET ORGAN IS PRIMARILY THE LUNG, BUT REPEATED HIGH EXPOSURE CAN ALSO AFFECT THE LIVER. CHRONIC OVEREXPOSURE TO TIN DUST OR IRON OXIDE DUST/FUME MAY CAUSE LUNG SIDEROSIS. CHRONIC OVEREXPOSURE TO SILICON DUST CAN CAUSE CHRONIC BRONCHITIS.

THIS PRODUCT ALSO CONTAINS LEAD AND CHROMIUM COMPOUNDS. LEAD IS KNOWN TO CAUSE REPRODUCTIVE TOXICITY AND IS A KNOWN CARCINOGEN. EXPOSURE TO CHROMIUM DUST OR FUME MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS AND KIDNEY AND LIVER DAMAGE. UNDER HIGH TEMPERATURES, HEXAVALENT CHROMIUM MAY BE PRODUCED, IF IN THE INSOLUBLE FORM, IT IS A CONFIRMED HUMAN CARCINOGEN. (CALIFORNIA PROPOSITION 65)

IF COATED WITH OIL, MAY CAUSE SKIN IRRITATION/DERMATITIS BY CONTACT. WELDING FUME IS LISTED AS A POSSIBLE CARCINOGENIC TO HUMANS.

READ THE ALUMINUM/ALUMINUM ALLOYS MATERIAL SAFETY DATA SHEET(MSDS) ON FILE WITH YOUR EMPLOYER BEFORE WORKING WITH THIS MATERIAL.

- \* If processing or recycling produces particulate, use exhaust ventilation or other controls designed to prevent exposure to workers. Examples of such activities include melting, welding, grinding, abrasive sawing, sanding and polishing. Any activity which abrades the surface of this material can generate airborne particulate. Use respiratory protection (P100, quantitative fit testing required) if exposures exceed the permissible limits.
- \* The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational exposures.
- \* Aluminum, in solid form and as contained in finished products presents no special health risk.
- \* Sold for manufacturing purposes only. This product can be recycled; contact your sales representative.

The Occupational Safety and Health Administration require employers to provide training in the proper use of this product.

For additional information, call or write to Copper and Brass Sales, 22355 West Eleven Mile Road, Southfield, MI 48033, telephone 248-233-5600, or visit our web site @ [www.copperandbrass.com](http://www.copperandbrass.com).



**PRECISION COIL, INC.**

Post Office Box 2650  
U.S. 50 West  
Clarksburg, WV 26302  
(304) 622-1984  
(304) 622-2301

7/10/2007

CS 1775

**CERTIFIED INSPECTION REPORT**

Report No. 31657

Test Date 7/10/2007

Lot # / Heat # / S/O # 76086

Customer Name COPPER &amp; BRASS SALES

Customer PO # CS1775

Alloy 1100

Temper O

Test Specification AMSQQA250/1A &  
ASTMB209-06

Gauge (in) .063

Width (in) 48

Length (in) 144.000

Net Weight (lbs) 10,522# 'S

5/12/06

Test No

Spec ID

YLD (psi)

UTS (psi)

ELONG in 2" (%)

38480

1100-O

5,714

13,038

33.00

ALLOY	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	OTHER		REMAINDER
									EACH	TOTAL	
1100	Si+Fe	= 95	.05-.20	.05	---	---	.10	---	.05	.15	REMAINDER
ACTUALS											
	.12	.60	.10	---	---	---	.01	---	.05	.15	REMAINDER

THIS REPORT INDICATES THE CHEMICAL ANALYSIS RANGE TO WHICH THE ITEMS LISTED WERE MANUFACTURED  
BASED ON CERTIFICATE OF COMPLIANCE FURNISHED TO US BY THE PRODUCER. WE CERTIFY THEM TO BE  
WITHIN THE LIMITS SHOWN. FOR ALLOY 1350 ONLY A MINIMUM ELECTRICAL CONDUCTIVITY OF 62% IACS  
AT 20 DEGREES CELSIUS IS GUARANTEED.

By

UNC

Date

7/13/07